

WHAT IS CLAIMED IS:

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*Ans B'* →

1. A method of producing C<sub>60</sub> and C<sub>70</sub> compounds which comprises evaporating graphite in an atmosphere of an inert quenching gas at effective pressures in an evacuated reactor, collecting the quenched carbon product produced therefrom and contacting the quenched carbon product with an extracting non-polar organic solvent under effective conditions to separate the C<sub>60</sub> and C<sub>70</sub> compounds therefrom.

2. The method according to Claim 1 wherein the quenched carbon is collected on a collecting substrate.

3. The method according to Claim 1 wherein the C<sub>60</sub> and C<sub>70</sub> compounds are recovered from the organic solvent.

4. The method according to Claim 3 wherein the separating step comprises evaporating the solvent.

5. The method according to Claim 1 wherein the solvent is benzene.

6. The method according to Claim 1 wherein the solvent is carbon tetrachloride.

7. The method according to Claim 1 wherein the evaporation of graphite is effected by passing high electrical current through graphite rods.

8. The method according to Claim 1 wherein the inert gas is helium or argon.

9. The method according to Claim 1 wherein the graphite is evaporated at pressures ranging from about 50 torr to about 400 torr.

10. The method according to Claim 9 wherein the pressure is about 100 torr.

11. The method according to Claim 1 wherein the pressure ranges from about 2 to about 3 atmospheres.

12. The method according to Claim 1 further comprising separating the  $C_{60}$  compound from the  $C_{70}$  compound.

13. The method according to Claim 11 further comprising separating the  $C_{60}$  compound from the  $C_{70}$  compound.

14. Amorphous or crystalline particulate matter comprised of  $C_{60}$ .

15. Amorphous or crystalline particulate matter comprised of  $C_{60}$  produced by the process according to Claim 9.

16. A carbon product comprising a mixture of  $C_{60}$  and  $C_{70}$ .

17. A carbon product, the mass spectrum of which shows a strong peak at mass 720 amu, the infrared bonds of which have four intense lines at 1424, 1183, 577, and  $528\text{ cm}^{-1}$ , absorption peaks in the UV at 264 and 339 nm, soluble in non-polar organic solvents and sublimates at a temperature of from about  $300^{\circ}$  to  $400^{\circ}\text{C}$ .

18. The carbon product of Claim 17 produced by the process of Claim 1.

19. A carbon product produced by the process of Claim 10.

20. A carbon product produced by the process of Claim 11.

21. A carbon product produced by the process of Claim 12.

22. A carbon product produced by the process of Claim 13.

23. A formed or molded product comprising  $C_{60}$ .

24. The product according to Claim 23 which is extended in at least one direction.

25. A free flowing particulate comprised of  $C_{60}$ .

- 1                    26. Substantially pure  $C_{60}$ .  
                    27. A brownish-red carbon allotrope.  
                    28. Amorphous or crystalline particulate  
matter comprised of  $C_{70}$ .  
                    29. A carbon product, the mass spectrum of  
5                    which shows a molecular ion at 840 amu, a broad peak in  
the ultraviolet at 216 nm, and soluble in non-polar  
organic solvents.  
                    30. A formed or molded product comprising  $C_{70}$ .  
                    31. A free-flowing particulate comprised of  
10                    $C_{70}$ .  
                    32. Substantially pure  $C_{70}$ .  
                    33.  $C_{60}$ .  
                    34.  $C_{70}$ .  
                    35. The vapor of  $C_{60}$ .  
15                   36. The vapor of  $C_{70}$ .

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1           37. A method of extracting  $C_{60}$  and  $C_{70}$  from a  
carbon source containing same which comprises contacting  
the carbon source with a non-polar organic solvent.

5           38. A method according to Claim 37 wherein the  
 $C_{60}$  and  $C_{70}$  are recovered from the organic solvent.

          39. A method according to Claim 37 wherein the  
solvent is benzene, carbon tetrachloride or carbon  
disulfide.

10          40. A method of extracting  $C_{60}$  and  $C_{70}$  from a  
carbon source containing same which comprises contacting  
the carbon source with benzene and recovering  $C_{60}$  and  $C_{70}$   
from the benzene solution thus formed.

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carbon source containing  $C_{60}$  and  $C_{70}$  is produced by  
evaporating graphite in an atmosphere of an inert  
quenching gas in a reactor therefor.

          42. A method according to Claim 41 wherein the  
evaporation of graphite is effected by passing high  
electrical current through graphite rods.

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inert gas is helium or argon.

          44. A method according to Claim 41 wherein the  
carbon source containing  $C_{60}$  and  $C_{70}$  is obtained from  
collecting substrates in said reactor.

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            C<sub>1</sub>